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DATE: 11-3-2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: James A. Hoxie *et al.* **Attorney Docket No.** 53893-5046US1

Application No.: 10/767,648 **Group Art Unit:** 1645

Filed: January 29, 2004 **Examiner:** Not Yet Assigned

Title: COMPOSITIONS, METHODS AND KITS RELATING TO DELETION MUTATIONS OF IMMUNODEFICIENCY VIRUS GP120 HYPERVARIABLE REGIONS

INFORMATION DISCLOSURE UNDER 37 CFR 1.97(b)

Sir:

The attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached Form PTO-1449. One copy of each of these documents is attached, if required.

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It is respectfully requested that the information be considered by the Examiner and that a copy of the attached Form PTO-1449 be returned indicating that such information has been considered.

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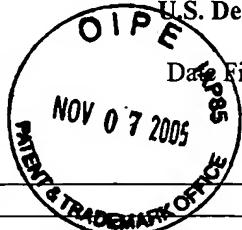
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U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if appropriate
							Translation Yes/No/Abstract

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.)

	AGUILAR, H. C. et al., "Cytoplasmic Tail of Moloney Murine Leukemia Virus Envelope Protein Influences the Conformation of the Extracellular Domain: Implications for Mechanism of Action of the R Peptide," <i>Journal of Virology</i> , Vol. 77, pp. 1281-1291, 2003.
	ALLAN, J. S. et al., "Major Glycoprotein Antigens That Induce Antibodies in AIDS Patients are Encoded by HTLV-III," <i>Science</i> , Vol. 228, pp. 1091-1094, 1985.
	ALKHATIB, G. et al., "CC CKR5: a RANTES, MIP-1 α , MIP-1 β Receptor as a Fusion Cofactor for Macrophage-Tropic HIV-1," <i>Science</i> Vol. 272, pp. 1955-1958, 1996.
	ANDREASSEN, H. et al., "Analysis of the Secondary Structure of the Human Immunodeficiency Virus (HIV) Proteins p17, gp120, and gp41 by Computer Modeling Based on Neural Network Methods," <i>J. Acquired Immune Deficiency Syndrome</i> , Vol. 3; pp. 615-622, 1990.
	BABA, T. W. et al., "Human Neutralizing Monoclonal Antibodies of the IgG1 Subtype Protect Against Mucosal Simian-Human Immunodeficiency Virus Infection," <i>Nature Med.</i> Vol. 6, p. 200-206, 2000.
	BARNETT, S. W., et al., "The Ability of an Oligomeric Human Immunodeficiency Virus Type 1 (HIV-1) Envelope Antigen to Elicit Neutralizing Antibodies Against Primary HIV-2 Isolates is Improved Following Partial Deletion of the Second Hypervariable Region," <i>Journal of Virology</i> , Vol. 75, pp. 5526-5540, 2001.
	BASMACIOGULLARI, S. et al., "Identification of Conserved and Variable Structures in the Human Immunodeficiency Virus gp120 Glycoprotein of Importance for CXCR4 Binding," <i>Journal of Virology</i> , Vol. 76, pp. 10791-10800, 2002.
	BERGER, E. A. et al., "HIV Entry and Tropism: The Chemokine Receptor Connection," <i>AIDS</i> , Vol. 11, pp. S3-S16, 1997.
	BINLEY, J. M. et al., "A Recombinant Human Immunodeficiency Virus Type 1 Envelope Glycoprotein Complex Stabilized by an Intermolecular Disulfide Bond Between the gp120 and gp41 Subunits is an Antigenic Mimic of the Trimeric Virion-Associated Structure," <i>Journal of Virology</i> , Vol. 74, pp. 627-643, 2000.
	BOLMSTEDT, A. et al., "Enhanced Immunogenicity of a Human Immunodeficiency Virus Type 1 env DNA Vaccine by Manipulating N-Glycosylation Signals. Effects of Elimination of the V3 N306 Glycan," <i>Vaccine</i> , Vol. 20, pp. 397-405, 2002.
	CALARESE, D. A. et al., "Antibody Domain Exchange is an Immunological Solution to Carbohydrate Cluster Recognition," <i>Science</i> , Vol. 300, pp. 2065-2071, 2003.
	CHAN, D. C. et al., "Core Structure of gp41 From the HIV Envelope Glycoprotein," <i>Cell</i> , Vol. 89, pp. 263-273, 1997.
	CHERTOVA, E. et al., "Envelope Glycoprotein Incorporation, Not Shedding of Surface Envelope Glycoprotein (gp120/SU), Is the Primary Determinant of SU Content of Purified Human Immunodeficiency Virus Type 1 and Simian Immunodeficiency Virus," <i>Journal of Virology</i> , Vol. 76, pp. 5315-5325, 2002.

U.S. Department of Commerce		DOCKET NO.: 53893-5046	APPLN. NO. : 10/767,648
Date Filed: _____		APPLICANT: James A. Hoxie	
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	CHERTOVA, et al., "Sites, Mechanism of Action and Lack of Reversibility of Primate Lentivirus Inactivation by Preferential Covalent Modification of Virton Internal Proteins," <i>Curr. Mol. Med.</i> , Vol. 3, pp. 265-272, 2003.
	CHOE, H. et al., "The β -Chemokine Receptors CCR3 and CCR5 Facilitate Infection by Primary HIV-1 Isolates," <i>Cell</i> , Vol. 85, pp. 1135-1148, 1996.
	CHOE, H. et al., "Tyrosine Sulfation of Human Antibodies Contributes to Recognition of the CCR5 Binding Region of HIV-1 gp120," <i>Cell</i> , Vol. 114, pp. 161-170, 2003.
	CONNOR, R. et al., "Change in Coreceptor use Correlates With Disease Progression in HIV-1-Infected Individuals," <i>Journal Exp. Med.</i> , Vol. 185, pp. 621-628, 1997.
	CORMIER, E.G. et al., "The Crown and Stem of the V3 Loop Play Distinct Roles in Human Immunodeficiency Virus Type 1 Envelope Glycoprotein Interactions with the CCR5 Coreceptor," <i>Journal of Virology</i> , Vol. 76, pp. 8953-8957, 2002.
	DENG, H. et al., "Expression Cloning of New Receptors Used by Simian and Human Immunodeficiency Viruses," <i>Nature</i> , Vol. 388, pp. 296-300, 1997.
	DENG, H. et al., "Identification of a Major Co-Receptor for Primary Isolates of HIV-1," <i>Nature</i> , Vol. 381, pp. 661-666, 1996.
	DEY, B. et al., "Neutralization of Human Immunodeficiency Virus Type 1 by sCD4-17b, a Single-Chain Chimeric Protein, Based on Sequential Interaction of gp120 with CD4 and Coreceptor," <i>Journal of Virology</i> , Vol. 77, 2859-2865, 2003.
	DORANZ, B. et al., "A Dual Tropic Primary HIV-1 Isolate That Uses Fusion and the β -Chemokine Receptors CKR-5, CKR-3 and CKR-2b as Fusion Cofactors., <i>Cell</i> , Vol. 85, pp. 1149-1158, 1996.
	DRAGIC, T. et al., "HIV-1 Entry Into CD4+ Cells is Mediated by the Chemokine Receptor CC-CKR-5," <i>Nature</i> , Vol. 381, pp. 667-673, 1996.
	DRAGIC, T. et al., "An Overview of the Determinants of CCR5 and CXCR4 Co-Receptor Function," <i>Journal of General Virology</i> , Vol. 82, pp. 1807-1814, 2001.
	EARL, P. L. et al., "Oligomeric Structure of the Human Immunodeficiency Virus Type 1 Envelope Glycoprotein," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 87, pp. 648-652, 1990.
	EDINGER, A. L. et al., "CD4-Independent, CCR5-Dependent Infection of Brain Capillary Endothelial Cells by a Neurovirulent SIV Strain," <i>Proc. Natl. Acad. Sci., USA</i> , Vol. 94, pp 14742-14747, 1997.
	EDWARDS, T. G. et al., "Relationships Between CD4 Independence, Neutralization Sensitivity, and Exposure of a CD4-Induced Epitope in a Human Immunodeficiency Virus Type 1 Envelope Protein," <i>Journal of Virology</i> , Vol. 75, pp. 5230-5239, 2001.
	EDWARDS, T. G. et al., "Truncation of the Cytoplasmic Domain Induces Exposure of Conserved Regions in the Ectodomain of Human Immunodeficiency Virus Type 1 Envelope Protein," <i>Journal of Virology</i> , Vol. 76, pp. 2683-2691, 2002.
	EISENBERG, D. et al., "The Most Highly Amphiphilic Alpha-Helices Include Two Amino Acid Segments in Human Immunodeficiency Virus Glycoprotein 41," <i>Biopolymers</i> , Vol. 29, pp. 171-177, 1990.
	ENDRES, M. J. et al., "CD4-Independent Infection by HIV-2 is Mediated by Fusion/CXCR4," <i>Cell</i> , Vol. 87, pp. 745-756, 1996.
	FARZAN, M. et al., "Tyrosine-Sulfated Peptides Functionally Reconstitute a CCR5 Variant Lacking a Critical Amino-Terminal Region*," <i>The Journal of Biological Chemistry</i> , Vol. 277, pp. 40397-40402, 2002.
	FARZAN, M. et al., "A Tyrosine-Sulfated Peptide Based on the N Terminus of CCR5 Interacts With a CD4-Enhanced Epitope of the HIV-1 gp120 Envelope Glycoprotein and Inhibits HIV-1 Entry," <i>The Journal of Biological Chemistry</i> , Vol. 275, pp. 33516-33521, 2000.
	FARZAN, M. et al., "Tyrosine Sulfation of the Amino Terminus of CCR5 Facilitates HIV-1 Entry," <i>Cell</i> , Vol. 96, pp. 667-676, 1999.

U.S. Department of Commerce		DOCKET NO.: 53893-5046	APPLN. NO. : 10/767,648
Date Filed: _____		APPLICANT: James A. Hoxie	
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	FARZAN, M. et al., "Two Orphan Seven-Transmembrane Segment Receptors Which are Expressed in CD-4-Positive Cells Support Simian Immunodeficiency Virus Infection," <i>Journal Exp. Medicine</i> , Vol. 186, pp. 405-411, 1997.
	FENG, Y. et al., "HIV-1 Entry Cofactor: Functional cDNA Cloning of a Seven-Transmembrane, G Protein-Coupled Receptor," <i>Science</i> , Vol. 272, pp. 872-876, 1996.
	FOUTS, T. R. et al., "Neutralization of the Human Immunodeficiency Virus Type 1 Primary Isolate JR-FL by Human Monoclonal Antibodies Correlates With Antibody Binding to the Oligomeric Form of the Envelope Glycoprotein Complex," <i>Journal of Virology</i> , Vol. 71, pp. 2779-2285, 1997.
	FOUTS, T. et al., "Crosslinked HIV-1 Envelope-CD4 Receptor Complexes Elicit Broadly Cross-Reactive Neutralizing Antibodies in Rhesus Macques," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 99, pp. 11842-11847, 2002.
	GALLO, S. A. et al., "HIV-1 gp41 Six-Helix Bundle formation Occurs Rapidly After the Engagement of gp120 by CXCR4 in the HIV-1 Env-Mediated Fusion Process," <i>Biochemistry</i> , Vol. 40, pp. 12231-12236, 2001.
	GRUNDNER, C. et al., "Solid-Phase Proteoliposomes Containing Human Immunodeficiency Virus Envelope Glycoproteins," <i>Journal of Virology</i> , Vol. 76, pp. 3511-3521, 2002.
	HO, D.D. et al., "Conformational Epitope on gp120 Important in CD4 Binding and Human Immunodeficiency Virus Type 1 Neutralization Identified by a Human Monoclonal Antibody," <i>Journal of Virology</i> , Vol. 65, pp. 489-493, 1991.
	HOFFMAN, T. L., et al., "Chemokines and Coreceptors in HIV/SIV-Host Interactions," <i>AIDS</i> , Vol. 12, pp. S17-S26, 1998.
	HOFFMAN, T. L. et al., "A Biosensor Assay for Studying Ligand-Membrane Receptor Interactions: Binding of Antibodies and HIV-1 Env to Chemokine Receptors," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 97, pp. 11215-11220, 2000.
	HOXIE, J. A., "Hypothetical Assignment of Intrachain Disulfide Bonds for HIV-2 and SIV Envelope Glycoproteins," <i>AIDS Res. Hum. Retroviruses</i> , Vol. 7, pp. 495-499, 1991.
	JONES, P. L. et al., "Conformational Changes in Cell Surface HIV-1 Envelope Glycoproteins are Triggered by Cooperation Between Cell Surface CD4 and Co-Receptors," <i>The Journal of Biological Chemistry</i> , Vol. 273, pp. 404-409, 1998
	JOHNSON, W. E. et al., "Importance of B-Cell Responses for Immunological Control of Variant Strains of Simian Immunodeficiency Virus," <i>Journal of Virology</i> , Vol. 77, pp. 375-381, 2003.
	KALIA, V. et al., "Rational Site-Directed Mutations of the LLP-1 and LLP-2 Lentivirus Lytic Peptide Domains in the Intracytoplasmic Tail of Human Immunodeficiency Virus Type 1 gp41 Indicate Common Functions in Cell-Cell Fusion but Distinct Roles in Virion Envelope Incorporation," <i>Journal of Virology</i> , Vol. 77, pp. 3634-3646, 2003.
	KESSLER, J. A. et al., "Recombinant Human Monoclonal Antibody igG1b12 Neutralizes Diverse Human Immunodeficiency Virus Type 1 Primary Isolates," <i>AIDS Res. Hum. Retroviruses</i> , Vol. 13, pp. 575-582, 1997.
	KIM, Y. et al., "Immunogenicity and Ability of Variable Loop-Deleted Human Immunodeficiency Virus Type 1 Envelope Glycoproteins to Elicit Neutralizing Antibodies," <i>Virology</i> , Vol. 305, pp. 124-137, 2003.
	KLIGER, P. D. et al., "A Leucine Zipper-Like Sequence from the Cytoplasmic Tail of the HIV-1 Envelope Glycoprotein Binds and Perturbs Lipid Bilayers," <i>Biochemistry</i> , Vol. 36, pp. 5157-5169, 1997.
	KWONG, P. D. et al., "Structure of an HIV gp120 Envelope Glycoprotein in Complex With the CD4 Receptor and a Neutralizing Human Antibody," <i>Nature</i> , Vol. 393, pp. 648-659, 1998.
	KWONG et al., "Structure of an HIV gp120 Envelope Glycoproteins From Laboratory-Adapted and Primary Isolates," <i>Structure Fold Des.</i> , Vol. 8, pp. 1329-1339, 2000.

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		FILING DATE: January 29, 2004	GROUP: 1645

	KWONG, P. D. et al., "Oligomeric Modeling and Electrostatic Analysis of the gp120 Envelope Glycoprotein of Human Immunodeficiency Virus," <i>Journal of Virology</i> , Vol. 74, pp. 1961-1972, 2000.
	KWONG, P. D. et al., "HIV-1 Evades Antibody-Mediated Neutralization Through conformational Masking of Receptor-Binding Sites, <i>Nature</i> , Vol. 420, pp. 678-682, 2002.
	LABRIJN, A. F. et al., "Access of Antibody Molecules to the Conserved Coreceptor Binding Site on Glycoprotein gp120 is Sterically Restricted on Primary Human Immunodeficiency Virus Type 1," <i>Journal of Virology</i> , Vol. 77, pp. 10557-10565, 2003.
	LEE, B. et al. "Epitope Mapping of CCR5 Reveals Multiple Conformational States and Distinct but Overlapping Structures Involved in Chemokine and Coreceptor Function," <i>The Journal of Biological Chemistry</i> , Vol. 274, pp. 9617-9626, 1999.
	LIAO, F. et al., "A Novel Chemokine Receptor-Like Protein, Functions as a Fusion Cofactor for Both Macrophage-Tropic and T Cell Line-/Tropic HIV-1," <i>Journal Exp. Med.</i> , Vol. 185, pp. 2015-2023, 1997.
	LIFSON, J. D. et al., "Whole Inactivated SIV Virion Vaccines With Functional Envelope Glycoproteins: Safety, Immunogenicity, and Activity Against Intrarectal Challenge," <i>J. Med. Primatol.</i> , Vol. 31, pp. 205-216, 2002.
	LIN, G. et al., "CD4-Independent use of Rhesus CR5 by Human Immunodeficiency Virus Type 2 Implicates an Electrostatic Interaction Between the CCR5 N Terminus and the gp120 C4 Domain," <i>Journal of Virology</i> , Vol. 75, pp. 10766-10778, 2001.
	LIN, G. et al., "Identification of gp120 Binding Sites on CXCR4 by Using CD4-Independent Human Immunodeficiency Virus Type 2 Env Proteins," <i>Journal of Virology</i> , Vol. 77, pp. 931-942, 2003.
	LU, S. et al., "Immunogenicity of DNA Vaccines Expressing Human Immunodeficiency Virus Type 1 Envelope Glycoprotein With and Without Deletions in the V1/2 and V3 Regions, <i>AIDS Res. Hum. Retroviruses</i> , Vol. 14, pp. 151-155, 1998.
	MARTIN, I. et al., "Lipid Membrane Fusion Induced by the Human Immunodeficiency Virus Type 1 gp41 N-Terminal Extremity is Determined by its Orientation in the Lipid Bilayer," <i>Journal of Virology</i> , Vol. 70, pp. 298-304, 1996.
	MASCOLA, J. R. et al., "Protection of Macaques against Pathogenic Simian/Human Immunodeficiency Virus 89.6PD by Passive Transfer of Neutralizing Antibodies," <i>Journal of Virology</i> , Vol. 73, pp. 4009-4018, 1999.
	MASCOLA, J. R. et al., "Protection of Macaques Against Vaginal transmission of a Pathogenic HIV-1/SIV Chimeric Virus by Passive Infusion of Neutralizing Antibodies," <i>Nat. Med.</i> , Vol. 6:, pp. 207-210, 2000.
	McMICHAEL, A. J. et al., "HIV Vaccines 1983-2003, <i>Nature Med.</i> , Vol. 9, pp. 874-880, 2003.
	MELIKYAN, G.B. et al., "Evidence that the Transition of HIV-1 gp41 into a Six-Helix Bundle, Not the Bundle Configuration, Induces Membrane Fusion," <i>The Journal of Cell Biology</i> , Vol. 151, pp. 413-423, 2000.
	MELIKYAN, G.B. et al., "Role of the Cytoplasmic Tail of Ecotropic Moloney Murine Leukemia Virus Env Protein in Fusion Pore Formation," <i>Journal of Virology</i> , Vol. 74, pp. 447-455, 2000.
	MILLER, M. A. et al., "Alterations in Cell Membrane Permeability by the Lentivirus Lytic Peptide (LLP-1) of HIV-1 Transmembrane Protein," <i>Virology</i> , Vol. 196, pp. 89-100, 1993.
	MILLER, M. A. et al., "Identification of a Calmodulin-Binding and Inhibitory Peptide Domain in the HIV-1 Transmembrane Glycoprotein," <i>AIDS Research and Human Retroviruses</i> , Vol. 9, pp. 1057-1066, 1993.
	MODROW, S. et al., "Computer-Assisted Analysis of Envelope Protein Sequences of Seven Human Immunodeficiency Virus Isolates: Prediction of Antigenic Epitopes in Conserved and Variable Regions," <i>Journal of Virology</i> , Vol. 61, pp. 570-578, 1987.

U.S. Department of Commerce		DOCKET NO.: 53893-5046	APPLN. NO. : 10/767,648
Date Filed: _____		APPLICANT: James A. Hoxie	
		FILING DATE: January 29, 2004	GROUP: 1645

	MOORE, J.P. et al., "Probing the Structure of the V2 Domain of Human Immunodeficiency Virus Type 1 Surface Glycoprotein gp120 with a Panel of Eight Monoclonal Antibodies: Human Immune Response to the V1 and V2 Domains," <i>Journal of Virology</i> , Vol. 67, pp. 6136-6151, 1993.
	MOORE, J. P. et al., "Probing the Structure of the Human Immunodeficiency Virus Surface Glycoprotein gp120 with a Panel of Monoclonal Antibodies," <i>Journal of Virology</i> , Vol. 68, pp. 469-484, 1994.
	MOULARD, M. et al., "Broadly Cross-Reactive HIV-1-Neutralizing Human Monoclonal Fab Selected for Binding to gp120-CD4-CCR5 Complexes," <i>Proc. Natl. Acad. Sci USA</i> , Vol. 99, pp. 6913-6918, 2002.
	MUSTER, T. et al., "A Conserved Neutralizing Epitope on gp41 of Human Immunodeficiency Virus Type 1," <i>Journal of Virology</i> , Vol. 67, pp. 6642-6647, 1993.
	MYSZKA, D.G. et al., "Energetics of the HIV gp120-CD4 Binding Reaction," <i>Proc. Natl. Acad. Sci USA</i> , Vol. 97, pp. 9026-9031, 2000.
	OLSON, W. C. et al., "Differential Inhibition of Human Immunodeficiency Virus Type 1 Fusion, gp120 Binding, and CC-Chemokine Activity by Monoclonal Antibodies to CCR5," <i>Journal of Virology</i> , Vol. 73, pp. 4145-4155, 1999.
	OLSON, K. E .P. et al., "Palmitoylation of the Intracytoplasmic R Peptide of the Transmembrane Envelope Protein in Moloney Murine Leukemia Virus," <i>Journal of Virology</i> , Vol. 73, pp. 8975-8981, 1999.
	PARKER, C. E. et al., "Fine Definition of the Epitope on the gp41 Glycoprotein of Human Immunodeficiency Virus Type 1 for the Neutralizing Monoclonal Antibody 2F5," <i>Journal of Virology</i> , Vol. 75, pp. 10906-10911, 2001.
	PARREN, P. W. et al., "The Neutralizing Antibody Response to HIV-1: Viral Evasion and Escape From Humoral Immunity," <i>AIDS</i> , Vol. 13, pp. S137-S162, 1993.
	PEREIRA, F. B. et al., "Permeabilization and Fusion of Uncharged Lipid Vesicles Induced by the HIV-1 Fusion Peptide Adopting an Extended Conformation: Dose and Sequence Effects," <i>Biophys. J.</i> , Vol. 73, pp. 1977-1986, 1997.
	PINTER, A. et al., "Oligomeric Structure of gp41, the Transmembrane Protein of Human Immunodeficiency Virus Type 1," <i>Journal of Virology</i> , Vol. 63, pp. 2674-2679, 1989.
	POSNER, M. R. et al., "An IgG Human Monoclonal Antibody That Reacts With HIV-1/GP120, Inhibits Virus Binding to Cells, and Neutralizes Infection," <i>J. Immunol.</i> , Vol. 146, pp. 4325-4332, 1991.
	PUFFER, B.A. et al., "CD4 Independence of Simian Immunodeficiency Virus Envs is Associated with Macrophage Tropism, Neutralization Sensitivity, and Attenuated Pathogenicity," <i>Journal of Virology</i> , Vol. 76, pp. 2595-2605, 2002.
	REITTER, J. N. et al, "A Role for Carbohydrates in Immune Evasion in AIDS," <i>Nat. Med.</i> , Vol. 4, pp. 679-684, 1998.
	RICHMAN, D. D. et al., "Rapid Evolution of the Neutralizing Antibody Response to HIV Type 1 infection," <i>Proc. Nat. Acad. Sci. USA</i> , Vol. 100, pp. 4144-4149, 2003.
	RIZZUTO, C.D. et al., "A Conserved HIV gp120 Glycoprotein Structure Involved in Chemokine Receptor Binding," <i>Science</i> , Vol. 280, pp. 1949-1953, 1998.
	RIZZUTO, C. et al., "Fine Definition of a conserved CCR-5-Binding Region on the Human Immunodeficiency Virus type 1 Glycoprotein 120," <i>AIDS Res. Hum. Retroviruses</i> , Vol. 16, pp. 741-749, 2000.
	ROBEY, W. G. et al., "Characterization of Envelope and Core Structural Gene Products of HTLV-III With Sera From AIDS Patients," <i>Science</i> , Vol. 228, pp. 593-595, 1985.
	ROUSSO, I. et al., "Palmitoylation of the HIV-1 Envelope Glycoprotein is Critical for Viral Infectivity," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 97, No. 25, pp. 13523-13525, 2000.

U.S. Department of Commerce		DOCKET NO.: 53893-5046	APPLN. NO. : 10/767,648
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	RUCKER, J. et al., "Utilization of Chemokine Receptors, Orphan Receptors and Herpesvirus-Encoded Receptors by Diverse Human and Simian Immunodeficiency Viruses," <i>Journal of Virology</i> , Vol. 71, pp. 8999-9007, 1997.
	RUPRECHT, R. M. et al., "Antibody Protection: Passive Immunization of Neonates Against Oral AIDS Virus Challenge," <i>Vaccine</i> , Vol. 21, pp. 3370-3373, 2003.
	SANDERS, R. W. et al., "Variable-Loop-Deleted Variants of the Human Immunodeficiency Virus Type 1 Envelope Glycoprotein can be Stabilized by an Intermolecular Disulfide Bond Between the gp120 and gp41 Subunits," <i>Journal of Virology</i> , Vol. 74, pp. 5091-5100, 2000.
	SAPHIRE, E. O. et al., "Crystallization and Preliminary Structure Determination of an Intact Human Immunoglobulin, b12: An Antibody That Broadly Neutralizes Primary Isolates of HIV-1," <i>Acta. Crystal. D. Biol. Crystal.</i> , Vol. 57, pp. 168-171, 2001.
	SATTENTAU, Q. J. et al., "Conformational Changes Induced in the Envelope Glycoproteins of the Human and Simian Immunodeficiency Viruses by Soluble Receptor Binding," <i>Journal of Virology</i> , Vol. 67, pp. 7383-7393, 1993.
	SRIVASTAVA, I. K. et al., "Changes in the Immunogenic Properties of Soluble gp140 Human Immunodeficiency Virus Envelope Constructs Upon Partial Deletion of the Second Hypervariable Region," <i>Journal of Virology</i> , Vol. 77, pp. 2310-2320, 2003.
	STAMATATOS, L. et al., "An Envelope Modification That Renders a Primary, Neutralization-Resistant Clade B Human Immunodeficiency Virus Type 1 Isolate Highly Susceptible to Neutralization by Sera From Other Clades," <i>Journal of Virology</i> , Vol. 72, pp. 7840-7845, 1998.
	STAMATATOS, L. et al., "Effect of Major Deletions in the V1 and V2 Loops of a Macrophage-Tropic HIV Type 1 Isolate on Viral Envelope Structure, Cell Entry, and Replication," <i>AIDS Res. Hum. Retroviruses</i> , Vol. 14, pp. 1129-1139, 1998.
	STARCICH, B. R. et al., "Identification and Characterization of Conserved and Variable Regions in the Envelope Gene of HTLV-III/LAV, the Retrovirus of AIDS," <i>Cell</i> , Vol. 45, pp. 637-64, 1986.
	SULLIVAN, N. et al., "Determinants of Human Immunodeficiency Virus Type 1 Envelope Glycoprotein Activation by Soluble CD4 and Monoclonal Antibodies," <i>Journal of Virology</i> , Vol. 72, 6332-6338, 1998.
	THALI, M. et al., "Discontinuous, Conserved Neutralization Epitopes Overlapping the CD4-Binding Region of Human Immunodeficiency Virus Type 1 gp120 Envelope Glycoprotein," <i>Journal of Virology</i> , Vol. 66, pp. 5635-5641, 1992.
	TRKOLA, A. et al., "CD4-Dependent, Antibody-Sensitive Interactions Between HIV-1 and its Co-Receptor CC4-5," <i>Nature</i> , Vol. 384, pp. 184-187, 1996.
	TRKOLA, A. et al., "Human Monoclonal Antibody 2G12 Defines a Distinctive Neutralization Epitope on the gp120 Glycoprotein of Human Immunodeficiency Virus Type 1," <i>Journal of Virology</i> , Vol. 70, pp. 1100-1108, 1996.
	WEI, X. et al., "Antibody Neutralization and Escape by HIV-1," <i>Nature</i> , Vol. 422, pp. 307-312, 2003.
	WENG, Y. et al., "Structure-Function Studies of the Self-Assembly Domain of the Human Immunodeficiency Virus Type 1 Transmembrane Protein gp41," <i>Journal of Virology</i> , Vol. 74, pp. 5368-5372, 2000.
	WILD, C. T. et al., "Peptides Corresponding to a Predictive α -Helical Domain of Human Immunodeficiency Virus Type 1 gp41 are Potent Inhibitors of Virus Infection," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 91, pp. 9770-9774, 1994.
	WILLEY, R. L. et al., "Control of Viremia and Prevention of Simian-Human Immunodeficiency Virus-Induced Disease in Rhesus Macaques Immunized with Recombinant Vaccinia Viruses Plus Inactivated Simian Immunodeficiency Virus and Human Immunodeficiency Virus Type 1 Particles," <i>Journal of Virology</i> , Vol. 77, pp. 1163-1174, 2003.

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	WU, L. et al., "CD4-Induced Interaction of Primary HIV-1 gp120 Glycoproteins With the Chemokine Receptor CCR-5," <i>Nature</i> , Vol. 384, pp. 179-183, 1996.
	WU et al., "Interaction of Chemokine Receptor CCR5 With its Ligands: Multiple Domains for HIV-1 gp120 Binding and a Single Domain for Chemokine Binding," <i>J. Exp. Med.</i> , Vol. 186, pp. 1373-1381, 1997.
	WYATT, R. et al., "Functional and Immunologic Characterization of Human Immunodeficiency Virus Type 1 Envelope Glycoproteins Containing Deletions of the Major Variable Regions," <i>Journal of Virology</i> , Vol. 67, pp. 4557-4565, 1993.
	WYATT, R. et al., "Relationship of the Human Immunodeficiency Virus Type I gp120 Third Variable Loop to a Component of the CD4 Binding Site in the Fourth Conserved Region," <i>Journal of Virology</i> , Vol. 66, pp. 6997-7004, 1992.
	WYATT, R. et al., "The Antigenic Structure of the HIV gp120 Envelope Glycoprotein," <i>Nature</i> , Vol. 393, pp. 705-710, 1998.
	WYATT, R. et al., "Involvement of the V1/V2 Variable Loop Structure in the Exposure of Human Immunodeficiency Virus Type 1 gp120 Epitopes Induced by Receptor Binding," <i>Journal of Virology</i> , Vol. 69, pp. 5723-5733, 1995.
	XIANG, S. H. et al., "Mutagenic Stabilization and/or Disruption of a CD4-Bound State Reveals Distinct Conformations of the Human Immunodeficiency Virus Type 1 gp120 Envelope Glycoprotein," <i>Journal of Virology</i> , Vol. 76, pp. 9888-9899, 2002.
	XIANG, S. H. et al., "Characterization of CD4-Induced Epitopes on the HIV Type 1 gp120 Envelope Glycoprotein Recognized by Neutralizing Human Monoclonal Antibodies," <i>AIDS Res. Hum. Retroviruses</i> , Vol. 18, pp. 1207-1217, 2002.
	YANG, C. et al., "Analysis of the Murine Leukemia Virus R Peptide: Delineation of the Molecular Determinants Which are Important to Its Fusion Inhibition Activity," <i>Journal of Virology</i> , Vol. 71, pp. 8490-8496, 1997.
	YANG, X. et al., "Characterization of Stable, Soluble Trimers Containing Complete Ectodomains of Human Immunodeficiency Virus Type 1 Envelope Glycoproteins," <i>Journal of Virology</i> , Vol. 74, pp. 5716-5725, 2000.
	YANG, X. et al., "Highly Stable Trimers Formed by Human Immunodeficiency Virus Type 1 Envelope Glycoproteins Fused with the Trimeric Motif of T4 Bacteriophage Fibritin," <i>Journal of Virology</i> , Vol. 76, p. 4634-4642, 2002.
	ZHANG, Y. et al., "Use of Coreceptors Other than CCR5 by Non-Syncytium-Inducing Adult and Pediatric Isolates of Human Immunodeficiency Virus Type I is Rare in Vitro," <i>Journal of Virology</i> , Vol. 72, pp. 9337-9344, 1998.
	ZHOU, N. et al., "Exploring the Stereochemistry of CXCR4-Peptide Recognition and Inhibiting HIV-1 Entry With D-Peptides Derived from Chemokines," <i>J. Biol. Chem.</i> , Vol. 277, pp. 17476-17485, 2002.
	ZWICK, M. B. et al., "Broadly Neutralizing Antibodies Targeted to the Membrane-Proximal External Region of Human Immunodeficiency Virus Type 1 Glycoprotein gp41," <i>Journal of Virology</i> , Vol. 75, pp. 10892-10905, 2001.
	ZWICK, M. B., et al., "A Novel Human Antibody against Human Immunodeficiency Virus Type 1 gp120 is V1, V2, and V3 Loop Dependent and Helps Delimit the Epitope of the Broadly Neutralizing Antibody Immunoglobulin G1 b12," <i>Journal of Virology</i> , Vol. 77, pp. 6965-6978, 2003.

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